

## REMARKS

Claims 1-32 and 39-43 are pending in the application. Claims 44-46, which depend from independent claim 11 have been added. New claims 44-46 are supported *inter alia* by the description in original claims 30-32, which have been cancelled.

Applicants acknowledge the indication in the instant official action that claims 30-32, 41 and 43 are allowed and that claims 8 and 14-29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten into an independent format.

Applicants are appreciative of the interview dated 29 November 2005, in which Examiner Jerry Lin, Primary Examiner Michael Borin, Applicant David Rimm and Applicant's Attorney, Beth Arnold participated. As reflected in the substance of the interview section of the Interview Summary, during the interview, "Applicants gave a brief description of the invention including its application to tissue and the use of RESA. The parties also discussed the teachings of Harris et al. in regard to claims 1 and 11 and the support in the specification for claim 30."

Applicants note that the instant official action is the **fifth** such action received for the instant patent application. Two different examiners and two different supervisory examiners have asserted four different prior art references against the pending claims over the course of these five office actions. Three of these references, U.S. Patent No. 4,998,284 (Bacus); U.S. 6,727,071 (Dunlay) and U.S. Patent Publication No. US 2002/0067409 (Harari) were successfully distinguished in previous responses and the remaining reference, Harris et al., is distinguished herein.

### Rejection of claims 1-7, 9-13, 39, 40 and 42 under 35 U.S.C. §102(e)(1) as being anticipated by Harris et al. (U.S. Publication No. 2003/0036855)

Claims 1-7, 9-13, 39, 40 and 42 have been rejected under 35 U.S.C. § 102(e)(1) as being anticipated by Harris et al., which the Examiner states "teach a method that includes identifying portions of a first image that corresponds to a first defined area (e.g. nuclei) (page 22, paragraph 0341-page 23, paragraph 0346); identifying portions of a

second image of a cell that corresponds to at least one biomarker (e.g. Cy3 or G-protein receptor) (page 22, paragraph 0341-page 23, paragraph 0346); superimposing portions of the second image against portions of the first image to identify whether the biomarker (a protein) is localized within the defined area (page 22, paragraph 0341-page 23, paragraph 0346; Fig.24A-26D).

The portion of the patent application pointed to by the examiner describes imaging of live cells that have been transfected with a G-protein coupled receptor incubated with fluorescein-labeled ligand. The patent application reports that “[A] cell-by-cell analysis of the binding activity is facilitated by making a mask from an image of LDS 751 emission, a non-specific nucleic acid stain, shown in Fig. 25.” The patent application goes on to report that “[T]he overlay in FIG 25(C) of the binary mask generated from thresholding the data in FIG. 25(B) with the receptor binding image yields a pseudo-color map of receptor activity.”

The masking technique described in the Harris patent application, is not new. A similar masking technique is described in U.S. Patent 6,727,071 to Dunlay, which was successfully distinguished in the response dated September 20, 2004. The masking technique described in the Harris patent application involves obtaining an image of a cell nucleus (the nuclear mask) and superimposing the nuclear mask onto a cellular image to block out the nucleus and facilitate viewing of the membrane containing receptors of interest.

The rejection as it pertains to claims 1-10 has been obviated by the cancellation of claims 1 -6 and the amendments to claims 7, 9 and 10, which provide for dependence from claim 11 instead of 1. Similarly, the rejection as it pertains to claims 30-32, 41 and 43 has been obviated by the cancellation of these claims.

Although describing a well-known masking technique, the Harris patent application does not describe the novel pixel based method of localizing a biomarker in a cell that is described in independent claim 11. Accordingly the rejection of claim 11 (from which claims 7, 9,10, 12-29, 41 and 43-46 depend) under 35 U.S.C. § 102(e)(1) should be withdrawn.

Notwithstanding the fact that the Harris patent application does not teach or

suggest the method of localizing a biomarker within a sub-cellular compartment as described in independent claim 11 and that this claim is novel and non-obvious in its own right, the Examiner should appreciate that dependent claims 12-29, 40, 42 and 44-46 contain additional limitations that are also not taught or suggested by the Harris patent application.

### CONCLUSION

For the foregoing reasons, Applicants respectfully request reconsideration and withdrawal of the pending rejections. Applicants believe that the claims now pending are in condition for allowance, and notification of such is respectfully requested.

Should an extension of time be required, Applicants hereby petition for same and request that the extension fee and any other fee required for timely consideration of this application be charged to Deposit Account Number **06-1448, Reference YUA-001.01**.

If, for any reason, a telephonic conference with the Applicants would be helpful in expediting prosecution of the instant application, the Examiner is invited to call Applicants' Agent at the telephone number provided below.

Respectfully submitted,  
FOLEY HOAG LLP



Beth E. Arnold  
Reg. No. 35,430  
Attorney for Applicants

Dated: February 6, 2006

**Customer No.: 25181**  
Patent Group  
Foley Hoag LLP  
World Trade Center West  
155 Seaport Boulevard  
Boston, MA 02210

Telephone: (617) 832-1294  
Facsimile: (617) 832-7000